Overview of the planned introduction of nurse endoscopy in Queensland

Nursing and Midwifery Office, Queensland

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- Nursing and Midwifery Office, Queensland

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1 Executive summary

This report presents an overview of the planned introduction of nurse endoscopy as a key strategy for addressing capacity problems associated with the delivery of gastro-intestinal (GI) endoscopies (particularly colonoscopies and, to a lesser extent, gastroscopies) in public hospitals in Queensland. The case for change is presented, including the background, analysis of the demand and supply issues, a range of some suggested strategies for addressing the issues, and international literature supporting the introduction of nurse endoscopy.

1.1 Introduction and background

Endoscopy is used for diagnosis and treatment of disorders in the GI tract. In Australia it is usually provided by medical practitioners, particularly gastroenterologists, general physicians and surgeons, with a small number of registered nurses. Internationally, particularly United Kingdom, New Zealand, Canada, Netherlands and United States, nurse endoscopists have an increasing role in delivering gastroenterology procedures.

There has been a significant focus on identified problems with public sector access to GI endoscopic services in Queensland Health for a number of years. The issue is serious as lack of such access could result in a large number of people dying from potentially preventable conditions. The Queensland Government has identified the establishment of nurse endoscopy as an effective strategy to increase capacity and has tasked the Nursing and Midwifery Office, Queensland (NMOQ) with the implementation. This project builds on national initiatives, such as the Health Workforce Australia (HWA) pilot to expand the scope of practice of nurses, including advanced practice in endoscopy nursing, where Logan Hospital, Metro South Hospital and Health Service (HHS) is one of the pilot sites.

1.2 The need for increased capacity of endoscopy services

The total number of endoscopies performed in Queensland in 2012–13 was 158,065. Of these, the majority were in the private sector with only 51,344 being in the public sector, largely in South East Queensland.

The demand for public sector endoscopies significantly outstrips the capacity. It is estimated that 23,000 people were waiting in 2012–13 with anecdotal evidence of some people waiting up to eight years. The demand for endoscopies has increased significantly over the past 5 years, with 27% more endoscopies performed while the waiting lists also increased.

The demand for endoscopic and related specialist services continues to increase rapidly. Factors, such as the ageing of the population, population growth, increased use of endoscopic procedures, the downstream effect of the National Bowel Cancer Screening Program (NBCS), and need for on-going monitoring of patients with diagnosed treatable conditions, all contribute to a projected growth in demand for endoscopic and gastroenterological services. Our analysis has estimated that by 2018 demand for public endoscopies will be between 92,200 and 111,365 procedures per annum.

In addition, there is an increased indication for the use of diagnostic and therapeutic treatments. Increased endoscopic activities, such as colon cancer screening, has been
shown to reduce service demand for more resource intensive health treatments, such as
cancer surgery, radiation and chemotherapy. Currently around 50% of new cases of
colorectal cancer are diagnosed at Stages 3 or 4 when survival is poorest and spending per
case is significantly higher. It is estimated that 76% of the current deaths could have been
prevented if diagnosed at Stage 1 or 34% if diagnosed at Stage 2. Thus, not only would
patient outcomes improve would more emphasis on endoscopy, but also there would be
considerable cost saving to the health system. While over time, an increase in diagnosis and
eye intervention should release health resources from more intensive care, until this state is
reached significant extra investment, particularly in workforce supply, will be required to reap
the future rewards and meet the demand for early intervention while service provision for late
stage diagnosis remains resource intensive.

The projected increase in demand is not matched by growth of the relevant workforce.
Workforce analysis shows that in 2012, there were 171 specialists credentialed for
endoscopy in the public sector, equating to only 50 full-time equivalents (FTE), with the vast
majority being gastroenterologists. It is concerning that estimations of future workforce
supply indicate an annual growth of gastroenterologists of only 2 to 4% at the same time as
modelling of workforce requirements indicate between 97 and 106 FTEs will be required to
meet the projected service demand for endoscopies in 2018, a doubling of the current
specialist workforce.

1.3 Strategies to address the mismatch between demand
and supply of endoscopies

In order to address the increasing mismatch between demand and supply for endoscopies, a
range of strategies are required. These include reducing demand at the same time as
increasing supply of services through increasing, both capacity and productivity. While
increased funding will be needed to establish an effective response, merely increasing
funding in itself will not address the problem until workforce supply is addressed. What is
needed is a new way of delivering services that substantially improves productivity.

While the funding models are important to drive change, perhaps the more significant barrier
for innovative change is the culture of the service and difficulties in prioritising and
championing shifts in endoscopic policy and practice. The problems identified in this report
are not unique to Queensland with many of the issues reflecting similar trends elsewhere [1].
These findings have led countries, such as the United Kingdom to introduce innovative
changes to their healthcare practice, enabling every person who needs endoscopy to book
into and receive a procedure within two to six weeks with no waiting list. Such a
transformation in the United Kingdom was not achieved by simply tweaking the system. It
required a wholesale shift in the way service models were conceptualised and delivered.

Demand strategies include use of a standardised and consistent approach to referrals, triage
and surveillance through the improved use of standardised guidelines, and avoiding the use
of endoscopy for universal screening prior to filtering through more efficient tests, such faecal
occult blood testing.

Supply strategies, include:
• sourcing additional services through procurement from the private sector
• increasing productivity through more efficient and effective use of staff and facilities,
• redesigning of service models
• funding and optimising the use of endoscopy
• increasing workforce capacity through expanding the number of skilled and credentialed providers.

The analysis undertaken as part of developing this report has highlighted the deficiencies of relevant information which limits the ability for accurate service planning and evaluation of impact. Establishing a system for regularly collecting robust information on endoscopies, the workforce delivering the services and the waiting lists would enable more effective monitoring of the service and is a key strategy.

The introduction of nurse endoscopists is a potential game-changer. International evidence has demonstrated the impact of such a strategy. An examination of the literature demonstrates that appropriately prepared and skilled nurses can deliver quality endoscopy services safely, cost effectively and achieve high patient satisfaction. The United Kingdom, for example—has achieved improvements of patient waiting lists to two weeks for critical cases and six weeks for all other appropriate referrals [22].

Evidence from the United Kingdom and the Netherlands shows that introduction of nurse endoscopists has the potential to lower the labour costs without any reduction in the quality of care. Using nurses as part of multidisciplinary teams to undertake more straightforward procedures, does not only augment the workforce, but also enables limited specialist medical skills to be re-deployed into areas where they can make a greater contribution to the service.

It is fairly usual for the introduction of role substitution to be actively resisted by those affected by such a change. It has been established that nurse endoscopists are as good as medical professionals in performing endoscopies and this practice is becoming widely accepted in many parts of the world. There is a question about the extent to which such a change in practice will be accepted in Queensland. It is likely that Queensland will experience resistance to change. It will be important for Queensland to address these concerns if nurse endoscopy is to be implemented successfully.

1.4 Proposed implementation of nurse endoscopy

In response to the Queensland Government’s request, NMOQ has developed a report which has been informed by international literature (refer to Appendix 3), the work of HWA, and consultation both within Queensland and wider Australia. NMOQ has been given responsibility for leading the project, including working with participating HHSs, education provider(s) contracted to develop the training program and materials, and professional associations to establish credentialing standards and processes.

The objectives of the proposed project are to:

1. Prepare up to 15 nurse endoscopists at specialist nurse level trained and deployed in HHSs.
2. Develop course materials and training programs for future training, which will meet the requirements for accreditation at a minimum of Australian Qualifications Framework (AQF) level 9 (Masters equivalent) leading to the ability to perform a nurse endoscopists role at Graduate Diploma level, with the ability to articulate into, or form part of, a qualification leading to nurse practitioner registration.
3. Work with HHSs to transform services and introduce nurse endoscopy service models with HHS workplaces ready for trained nurse endoscopists to become effective immediately to undertake procedures as members of multi-disciplinary teams with consistency of quality outcomes delivered by a variety of service delivery and business models across the participating HHSs.

4. Develop a credentialing system through a relevant professional nursing college or association.

5. Evaluate the implementation one year post-implementation.

NMOQ has developed an educational pathway for nurse endoscopists, including an academic qualification which will be able to be articulated into a Master’s degree to enable the nurse endoscopist to exit at advanced level and also if they choose continue to be considered for endorsement for nurse practitioner registration in wider gastroenterology nursing.

Entry level for nurses into the pathway is aligned with the Nursing and Midwifery Board of Australia (NMBA) Fact sheet for advanced practice nursing [2]. The registered nurse pathway to advanced practice is outlined in the figure below.

Figure 1 Proposed nursing pathway to advanced practice in gastroenterology

![Diagram of proposed nursing pathway to advanced practice in gastroenterology](image-url)
1.5 Expected outcomes

Implementation of nurse endoscopy has been found to be successful at addressing the increasing demand for endoscopy services. This report, while focusing on nurse endoscopy, also recommends that it is introduced as part of a package of strategies which, if implemented as intended, can be expected over time to produce the following outcomes:

1. Reduction in the number of people developing and dying from cancer.
2. Better health outcomes for all Queenslanders with gastroenterology conditions.
3. Reduced burden of care for gastroenterology patients.

Ongoing monitoring and evaluation will be important to assess the success of the service changes, including the implementation of nurse endoscopy, as they are rolled out. Draft key performance indicators are have been developed and are presented in the report.
2 Introduction

There has been a significant focus on identified problems with public sector access to GI endoscopic services in Queensland Health for a number of years. The issue is serious as lack of such access could result in a large number of people dying from potentially preventable conditions. A number of reports have been written and committees have been formed. While there have been a number of gains, a major problem still exists, with increasing waiting lists and time delays for treatment.

This report presents a case for introducing nurse endoscopy as a key strategy for addressing these issues. The case for change includes the background and issues facing the delivery of GI endoscopic services, a range of some suggested strategies for addressing the issues, and international literature supporting the introduction of nurse endoscopy.

2.1 Scope

The scope of this report includes:

- gastrointestinal endoscopy
- examination of public health sector and
- examination of nurse endoscopy.

The following are excluded:

- endoscopy procedures coded as part of surgical intervention occurring in the operating theatre
- any endoscopies occurring within the primary care or private healthcare setting
- detailed workforce and service planning and
- physical facility design, which is beyond the remit of service planning guidelines, although recognised as an important element for maximising efficiency and capacity.

2.2 Constraints and limitations

There was significant difficulty in obtaining accurate and reliable data and information regarding endoscopy services in Queensland. Information regarding waiting lists is based on audits conducted and anecdotal evidence. At this time it appears there is no single source of cleansed data. This is a major problem that impacts on key decision making at HHS and department level.

The Health Service Planning Guidelines were not approved at the time of writing this document. It is anticipated that this information will forecast the proposed activity over the next few years.

2.3 Policy context

NMOQ has been tasked by the Minister for Health to lead the implementation of nurse endoscopy in Queensland. In June 2013, the Chief Nursing and Midwifery Officer collaborated with the Health Renewal Portfolio Office and the Contestability Branch,
Department of Health, to undertake a series of Investment Management workshops which were conducted in August 2013. Investment management aims to assist organisations direct resources to deliver best outcomes. It helps organisations to improve the way they operate and manage new investments (refer to Appendix 1).

The Investment Management workshops identified a range of potentially effective strategies, including nurse endoscopy which has informed the development of this report.

The following documents outline the policy intent of the Queensland Government in relation to nurse endoscopy:

1. **Queensland Commission of Audit, Final Report**

   This report [3] highlights the need for increased workforce flexibility and productivity to meet the health needs of Queenslanders. It states that this can be achieved through:
   - workforce redesign to make more cost-effective use of medical, nursing and allied health professionals in providing safe, quality healthcare
   - rationalising and simplifying industrial relations arrangements, and ensuring management flexibility is not compromised by restrictive work practices
   - accountable and transparent performance incentive arrangements for senior clinical staff.

   A key example highlighted in this report in regards to workforce redesign is nurse endoscopy.

2. **Blueprint for better healthcare in Queensland**

   In February 2013, the Queensland Government published the blueprint [4]. The blueprint outlines the Queensland Government’s policy for healthcare in Queensland. It highlights the need for clinicians to work to their full scopes of practice and challenge the ‘myths’ of what is possible, and be open to new ways of working and models of care. It outlines the need to break down traditional barriers between professions, build clinician leadership and promote a culture of respect for each other’s knowledge and skills. Nurse endoscopy is highlighted as a key example of this policy in action. Following the release of the blueprint, the Minister for Health tasked the Chief Nursing and Midwifery Officer with implementing the nurse endoscopy initiative.

3. **Strengthening health services through optimising nursing strategy and action plan 2013–2016**

   The purpose of strategy [5] is to facilitate action on the Queensland Government’s priorities and lead to better healthcare for all Queenslanders. The strategy, which has been approved by the Minister of Health, includes, as a key action, the development of nurse endoscopy service models to improve access to safe and reliable gastroenterology services. The implementation of the strategy is overseen by a program board which was established in October 2013.


   In 2012, HWA initiated the Expanded Scopes of Practice Program, including investment in Advanced Practice in Endoscopy Nursing pilots, aimed at broadening the roles of a range of health professionals in order to increase workforce productivity, recruitment and retention.

   The HWA Advanced Practice in Endoscopy Nursing Project is driven by two lead sites and delivered in five implementation sites in Queensland and Victoria. The Logan Hospital in Metro South HHS is both a lead and implementation site, and has a role in developing and
delivering training and mentoring future implementation sites/staff. Early project findings indicate the role is contributing to positive patient outcomes, and has the potential to reduce waiting lists in the longer term.
3 Background

3.1 What is endoscopy?

Endoscopy is primarily a diagnostic procedure that is used to examine inside the body using an endoscope. Since its development in the 1960s, endoscopes have assumed a dominant role in the diagnosis and treatment of disorders of the oesophagus, stomach, duodenum, terminal ileum and colon (see Figure 2).

The endoscope is a long thin tube, usually flexible, that has a light and video camera on the end. The endoscope enables the practitioner to view the interior surfaces of an organ or tissue, usually on a video screen. Other purposes of the endoscopy are to take a biopsy, for example—taking samples of tissue and/or to remove a foreign object, such as the removal of a polyp in the colon or a tumour that is affecting the oesophagus. The advantage is that endoscopy is generally considered a non-invasive procedure that avoids surgery [6].

![Endoscopy Diagram](image)

Endoscopy services provide a range of diagnostic and therapeutic procedures under varying anaesthetic/sedative combinations on an admitted or non-admitted basis, as elective or emergency procedures, in both public and private healthcare settings. Such procedures require specialist equipment, environment and staffing, either within a dedicated endoscopy suite or, more commonly in Queensland, as a co-located service with day surgery [7].

3.2 Who provides endoscopy?

In Australia, endoscopy is provided by a range of medical practitioners (including physicians and surgeons) and a very small number of registered nurses. All clinicians performing endoscopy in the public health sector must be properly endorsed by the Health Service Chief Executive (HSCE) in which they operate.
For doctors, the Conjoint Committee for the Recognition of Training in GI endoscopy provides registration and recognition of the qualification and training. This is a national body comprising representatives from:

- Gastroenterological Society of Australia (GESA)
- Royal Australasian College of Physicians (RACP)
- Royal Australasian College of Surgeons (RACS).

The committee recognises endoscopic training of specialist physicians and surgeons, who have completed their training in Australia or who are now practising in Australia [8].

For nurses performing endoscopic services there is currently no national body that recognises nursing endoscopic qualifications and training which meets the necessary credentialing standards required by the HHSs. While this gap does not prevent a HHS from endorsing a registered nurse who meets the necessary criteria, it presents barriers in transferability of skills and experience.

3.3 Why is endoscopy important?

Endoscopy is an important diagnostic test for a range of internal organs. The report focuses on gastroscopy and, more importantly, colonoscopy (including sigmoidoscopy) as these are the procedures proposed for nurses to carry out.

3.2.1 Gastroscopy (Upper endoscopy)

Upper endoscopy is used to determine the cause of:

- abdominal pain
- nausea/vomiting
- swallowing difficulties
- gastric reflux
- unexplained weight loss
- anaemia
- bleeding in the upper digestive tract.

Upper endoscopy is also used to remove trapped objects (including food), treat conditions, such as bleeding ulcers and biopsy tissue. Biopsies can be taken to determine sites of infection, to test the functioning of the small bowel and to diagnose abnormal tissue, including conditions, such as coeliac disease and cancerous lesions [9].

3.2.2 Colonoscopy/lower endoscopy

Colonoscopy can detect inflamed tissue, ulcers and abnormal growths. The procedure is used to look for early signs of colorectal cancer and can help diagnose unexplained changes in bowel habits, abdominal pain, bleeding from the bowel and weight loss. In some individuals with a family history, this may also be an appropriate test to check for bowel cancer[1] [10].

---

1 Sometimes referred as colorectal cancer, colon cancer.
Colonoscopy is the primary procedure for diagnosing bowel cancer occurring in the lower colon. The *prevalence of bowel cancer* and the *high burden* it places on both the patients and healthcare system means it is often singled out when discussing endoscopy. Bowel cancer is the second most commonly diagnosed cancer in Australia after prostate cancer and accounts for the largest proportion of hospital inpatient costs of any cancer diagnosed in Australia (refer to Appendix 2) [11]. As a result, much of the focus of this report will be the ramifications of problems associated with accessing colonoscopy and the resulting impact of bowel cancer on Queenslander’s.